PATENT SPECIFICATION (11) 1 602 739

1 602 739

(21) Application No 48827/77 (22) Filed 23 Nov 1977

(23) Complete Specification Filed 18 May 1978

(44) Complete Specification Published 18 Nov 1981

(51) INT. CL.[3] C12H 1/22

(52) Index at Acceptance C6E 102 103 110 JG

(19)

(54) METHOD OF AND APPARATUS FOR MATURING WINE

(71) I, FRANK JOSEPH GERALD GROSE, a British Subject of, 90 St. George's Avenue, Northampton, NN2 6JF, do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:-

This invention relates to a method of and apparatus for maturing wine. The invention is also applicable to other alcoholic beverages such as brandy and whisky.

Commercially produced wine is usually stored to mature in oak casks. The wine absorbs air through the wood, and there is an interchange of tannin and other substances between the wine and the wood which affects the flavour. In commercial practice this is an expensive procedure, because the casks are expensive and are rather easily damaged so that loss of wine regularly occurs.

In amateur wine making it is, on the other hand, unusual to employ this step because of the difficulty and expense of obtaining appropriate casks.

According to the present invention there is provided a method of maturing wine or other alcoholic beverage by storing it in a container which is itself air tight and is not of wood with a sleeve of wood with a blind bore therein inserted in the liquid in the container through the mouth of the container, whereby air can be absorbed by the beverage, and the beverage can be ventilated, through the wood.

The container may be of glass or stainless steel, for instance, while the sleeve, although preferably oak, may be of another wood; ash is one alternative. The bore in the sleeve opens to the exterior of the container, and is closed at the other end. Thus, there is a supply of air into the sleeve, and the air can be absorbed by the wine through the walls of the wooden sleeve.

The invention not only eliminates the need to supply a wooden cask, but offers the advantage that the wine can be more closely controlled than is possible with wooden casks. Thus, a sleeve of particular wall thickness can be selected and the depth of the bore and the depth of insertion of the sleeve can also be adjusted, although usually the sleeve will extend from the top to near the bottom of the container. Naturally, the joint between the sleeve and the mouth of the container must be made air tight, although a safety pressure valve is advantageously provided, to allow carbon dioxide produced during secondary fermentation to be released.

The invention also provides apparatus for use in maturing wine or other alcoholic beverage comprising a wooden sleeve with a blind bore therein. Preferably the sleeve is enlarged at the end at which the bore opens so that it can rest upon the periphery of an opening of a container. A sealing ring can be provided at the step between the enlarged part and the remainder of the sleeve. The sleeve is preferably of oak, but may be of another wood such as ash. It may be of any convenient shape in cross section, such as square or round. The apparatus may include means firmly to hold the sleeve in a container, and such means may include a spring member to traverse the top of the sleeve, and hooks to hold the ends of the spring member relative to the container. Also provided by the invention is the combination of such a sleeve with a container and means to hold the sleeve in the container.

The invention will be more clearly understood from the following description which is given by way of example only with reference to the accompanying drawings, in which:

Figure 1 shows a side elevation and an end view of a sleeve according to the invention.;

Figure 2 shows side and top views of a spring for holding the sleeve in a container;

Figure 3 shows one of two hooks for holding the spring; and

Figure 4 shows those parts assembled with a container to practise the method of the invention.

The oak sleeve shown at 10 in side and end views in Figure 1 is of circular cross section, 320 mm length and 26 mm diameter for the greater part of its length. It has a bore of 13 mm diameter terminating 12 mm from its lower end. The upper end of the sleeve is enlarged with a 45 mm diameter, and has a slot formed diametrically across the top. A rubber seating 12 is provided at the step between the enlarged part and the remainder of the sleeve.

In general, the sleeve will have a wall thickness of from 5 to 25mm, preferably 10 to 15mm,

though this is not a limiting feature and can be varied according to circumstances.

In Figure 4, the sleeve is shown held in position and extending into a one gallon glass jar 11 in which wine is contained to mature. The sleeve extends to near the bottom of the jar, and the rubber seating 12 rests on the lip of the opening to the jar. The sleeve is held downwards by a spring 13 shown separately in Figure 2 in top and side views, which is located in the groove in the top of the sleeve and is held at its ends by hooks 14 which engage the ears 15 of the jar, and of which one is shown separately in Figure 3.

The spring 13, preferably of steel, is a normally straight strip with turned over ends to provide eyelets. The hooks 14, of mild steel, are S-shaped , to engage the ears 15 on the container and to be threaded through the eyelets in the spring.

Of course, the sleeve can be made to any size appropriate to its intended application, and alternative means of holding it in a container can be provided to suit the container concerned. In the example described, the spring and holding arrangement is designed so that the enlarged part of the sleeve will lift off the lip of the container and thus allow ventilation therefrom of carbon dioxide formed during maturing of the wine, when an internal pressure of 30 p.s.i. is reached.

Prior to its first use, the wooden sleeve of the invention should be soaked in clean water for 24 hours to remove excess tannin and cause it to swell. It should then, after 24 hours, be sterilised in boiling water for 10 minutes, and allowed to cool to 70°F. The rubber seating should then be fitted, and the sleeve inserted centrally in the container with a loose fit as it may swell further. An air space will, of course, be left at the top of the jar. The sleeve can then be fixed, for instance as described above, in such a way that it will act as a safety valve should excess pressure due to secondary fermentation arise.

Oak from the Limousin region of France may be particularly suitable.

It has been found that when first used, oak should be used for only about 3 months, otherwise excess tannin will be transferred. A second use of about 12 months is appropriate, thereafter any period of use can be employed.

WHAT WE CLAIM IS:

1. A method of maturing wine or other alcoholic beverage by storing it in a container which is itself air tight and is not of wood with a sleeve of wood with a blind bore therein inserted in the liquid in the container through the mouth of the container, whereby air can be absorbed by the beverage, and the beverage can be ventilated, through the wood.

2. A method according to Claim 1 wherein the wood sleeve is of oak.

3. A method according to Claim 1 wherein the wood sleeve is of ash.

4. A method according to Claim 1, 2 or 3 wherein the container is of glass.

5. A method according to Claim 1, 2 or 3 wherein the container is of stainless steel.

6. Apparatus for use in maturing wine or other alcoholic beverage comprising a wooden sleeve with a blind bore therein.

7. Apparatus according to Claim 6 wherein the wood is oak.

8. Apparatus according to Claim 6 wherein the wood is ash.

9. Apparatus according to Claim 6, 7 or 8 wherein the sleeve is enlarged at the end where the bore is open.

10. Apparatus according to Claim 9 wherein a sealing ring is provided at the step between the enlarged part and the remainder of the sleeve.

11. Apparatus according to any one of Claims 6 to 10 including means to secure the sleeve firmly in a container.

12. Apparatus according to Claim 11 wherein said means comprise a spring member to traverse the top of the sleeve and hooks to hold the ends of the spring member relative to the container.

13. Apparatus according to any one of Claims 6 to 12 wherein the wall thickness of the bored sleeve is from 5 to 25 mm.

14. Apparatus according to Claim 13 wherein the thickness is from 10 to 15 mm.

15. Apparatus for use in maturing wine or other alcoholic beverage constructed and arranged substantially as hereinbefore described with reference to and as illustrated in the accompanying drawing.

16. Apparatus for use in maturing wine or other alcoholic beverage comprising a container which is itself airtight and is not of wood together with apparatus according to any one of Claims 6 to 15.

17. A method of maturing wine or other alcoholic beverage substantially as hereinbefore described.

18. Wine or other alcoholic beverage matured by the method of any one of Claims 1 to 5 and 17 or using apparatus according to any one of Claims 6 to 16.

J.A.KEMP & CO.
Chartered Patent Agents
14 South Square
Gray's Inn London WC1R 5EU

Printed for Her Majesty's Stationery Office by MULTIPLEX medway ltd., Maidstone, Kent, ME14 1JS. 1981. Published at the Patent Office, 25 Southampton Buildings, London WC2 1AY, from which copies may be obtained.

1602739 COMPLETE SPECIFICATION
1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

Fig. 1.

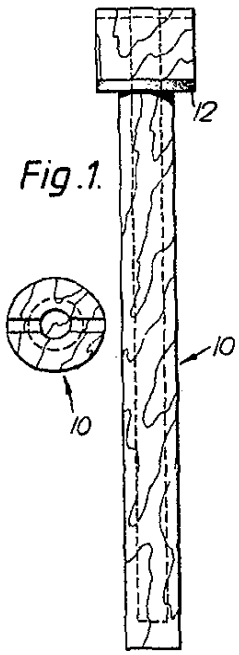

Fig. 4.

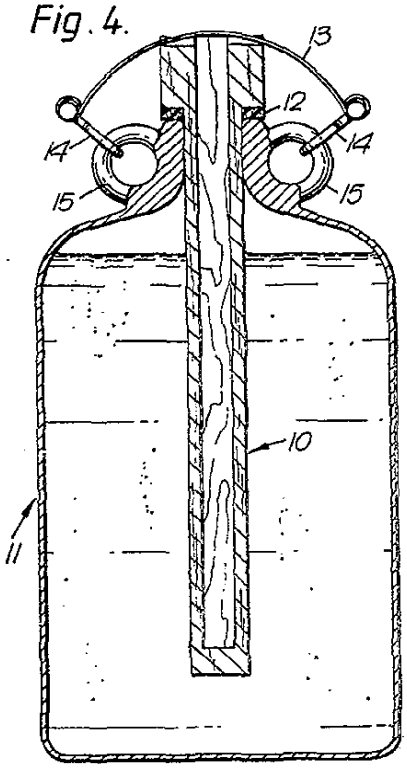

Fig. 2.

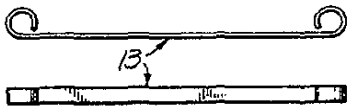

Fig. 3.